REVIEWS OF BOOKS

BIOLOGY

Cold Spring Harbor Symposia on Quantitative Biology, Volume 22. *Population Studies: Animal Ecology and Demography.* Cold Spring Harbor, New York, 1957. The Biological Laboratory. Pp. xiv + 437. Price $8.00.

THE COLD SPRING HARBOR Symposia have been important annual phenomena since 1933. The object of that of 1957 was "to bring together in the informal setting of the Biological Laboratory ecologists, demographers, anthropologists, population geneticists, and mathematicians, to discuss research problems . . ."

Genetics, in fact, did not appear in the title of any of the Symposia from 1933 to 1954, while it was prominent in 1955 and 1956, and again here in the 1957 effort, though not actually among the title words.

The 1957 Symposium had about 120 members, mostly from the United States expectedly, but with a truly useful if small contingent from elsewhere. Whether the diversity of subjects treated, in the thirty-five contributions here published, was excessive in relation to the interests of the participants, they alone can judge. The person who picks up the printed volume for the first time will imagine that it was so. The papers of most immediate interest to readers of THE EUGENICS REVIEW are perhaps Robert G. Potter's "Farris' Formula for Predicting Fertile Days" and John B. Calhoun's "Social Welfare as a Variable in Population Dynamics". A particular theme which appears at intervals is that of populations themselves, as higher units, being subject to natural selection.

A particular idea from A. J. Nicholson attracted the present reviewer. In recounting work on blowflies he remarks ". . . that natural selection operates to produce hyperadaptation. That is to say, selection does not merely operate to fit an organism to live in its existing environment, but tends to develop properties which are more than adequate, so making it possible for the species to exist in even less favourable environments".

These Symposia, and their subsequent published Volumes, are of special importance and have won a justified position for themselves in the esteem of biologists. But if only they could be firmly edited and the mass of verbiage reduced, how much more useful they would be. In an academic working life there is need to get at the meat quickly, not to be surfeited first by suet. Some, but by no means all, of the papers have summaries. The total is nearly 400,000 words. Is it cruel to suggest that in "the last several years", an "amazingly short elapsed time", "one can indeed speak more meaningfully of racial characteristics than of races as entities"? "Here we are faced with the need for an objective criterion for determining to what extent" academic "welfare is optimized" by volumes such as this.

As specialization increases, so too increases the need for better presentation. Verbosity in speech may sometimes by forgiven; in scientific printed papers it cannot be, unless adequate synopses and summaries are provided.

G. C. L. B.

BLOOD GROUPS

Race, R. R. and **Sanger, Ruth,** *Blood Groups in Man.* Third Edition. Oxford, 1958. Blackwell. Pp. xix + 377. Price 42s.

IT HAS for many years been accepted that the blood group genes are, scientifically speaking, the most important of all human genes, and for almost as long Sir Ronald Fisher and Dr. E. B. Ford have held that they are not selectively neutral but affect fitness to survive, and so are of direct eugenic interest. Nevertheless, it was only in 1953 that convincing direct evidence in support of this view was first published: it has since become abundantly clear that several serious diseases have a marked tendency to attack preferentially persons of particular blood groups. Even, however, if the blood groups were unaffected by the processes of natural selection they would still be of great interest to eugenists, since they provide a standard set of genes, present in everyone, and nearly all human genetical investigations now therefore include blood group tests, for such purposes as to confirm family relationships, to establish the zygosity

of twins, or to provide evidence of possible linked genes.

The appearance of a new edition of "Race and Sanger" is thus an important event for all who are interested in human genetics or in eugenics. This book, from its first appearance, has been the standard work on all aspects of the subject of its title, but especially on the genetical aspect. The third edition has been completely rewritten to accommodate the large number of new facts brought to light in the past four years, yet by ruthless pruning of less important material its length has been reduced even slightly below that of the second edition.

The greater part of the book is devoted to chapters on the genetics and serology of the nine major blood group systems. A few chapters mainly of technical interest are followed by four, two of them new and two much expanded, which are of great interest to all who are concerned with practical human genetics. Their titles are: "Blood groups and problems of parentage and identity," "The blood groups of twins," "Blood groups and disease" and "Blood groups and linkage".

The book, though crammed with facts, is eminently readable, being marked by a characteristically personal style of writing, by the expression, though in no dogmatic manner, of the opinions of the authors on controversial topics, and by an indefinable sense of constant contact with the atmosphere of a remarkable research laboratory.

A. E. MOURANT

EDUCATION

Kelsall, R. K. *Report on an Inquiry into Applications for Admission to Universities.* Commissioned by the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom. London, 1957. Pp. vi + 32. Price 17s. 6d.

THE PURPOSE of this inquiry was to ascertain whether or not every applicant worthy of University training in Great Britain was obtaining a place for such training, even though not in the University of his first choice. The educational institutions participating in the inquiry were therefore asked to complete forms for all requests from candidates for admission in 1955-56, giving particulars about them and showing whether they were accepted or rejected.

For those who like to play with figures this report contains a fascinating collection of twenty-seven very full tables of statistics. The majority of readers will be prepared to accept the author's arithmetic, and for these the report summarizes the results and discusses their implications with care. Applicants have been analysed according to area of origin; education and social background; degree of financial assistance; faculty, and proposed career. It appears that some 31,000 persons put in 70,000 applications; that is, the average student tried at least two different Universities, which suggests a certain amount of difficulty or expected difficulty in obtaining admission. Nevertheless about two-thirds of these persons were accepted either at once or for the next year. Of the non-admitted, probably only about one-third had the necessary qualifications, so that—roughly speaking—there were seven suitable applicants in every nine, and of these seven only one was unsuccessful. At the same time universities and colleges reported unfilled places numbering up to 2,500.

In the light of the great national demand to-day for skills of all kinds, and especially for scientific and technical expertise—a demand that cannot fail to grow—these figures are of obvious importance. The bare facts need qualification in many respects, and a detailed account is given in the report of the various special points at issue. It is significant that less than thirty per cent of English applicants had fathers in manual occupations, while men engaged in such work form over seventy per cent of the adult male occupied population, although without further investigation it is difficult to estimate the extent of any further latent abilities in the population that are not at present finding full expression.

P. R. C.

EMBRYOLOGY

Dalcq, A. M. *Introduction to General Embryology.* London, 1957. Oxford University Press. Pp. viii + 177. Price 25s.

THIS ELEGANTLY PRODUCED and well illustrated book, admirably translated by Jean Medawar, is based on a series of talks broadcast